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Assignee:	Cisco Technology, Inc.		
Title:	ADAPTIVE BANDWIDTH UTILIZATION OVER FABRIC LINKS		
Application No.:	09/978,475	Filing Date:	October 16, 2001
Examiner:	Karen C. Tang	Group Art Unit:	2151
Docket No.:	CIS0128US	Confirmation No.:	5139

Austin, Texas
December 5, 2008

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Examiner Tang:

Applicants hereby request review of the final rejection in the above-identified application. The Final Office Action was mailed August 5, 2008 and sets forth a shortened statutory period for reply that expires November 5, 2008. Accompanying this request is a petition under 37 C.F.R. § 1.136 for a one month extension of time, setting a new time for response to December 5, 2008. This Request is being filed concurrently with a Notice of Appeal under 37 CFR § 41.31. No amendments are being filed with this request.

This review is requested in light of the comments contained in the Final Office Action as well as in light of the comments contained in the Advisory Action dated October 28, 2008 (the "First Advisory Action") and the Advisory Action dated November 13, 2008 (the "Second Advisory Action").

Rejection of Claims under 35 U.S.C. §112

Claims 39-43 stand rejected under 35 U.S.C. §112, first paragraph. *See* Final Office Action, p. 3. Applicants responded to this rejection in their Response to Final Office Action dated October 6, 2008. Since no comments further upholding this rejection appear in either the First or Second Advisory Actions, Applicants believe this rejection to be

withdrawn. If it has not been withdrawn, Applicants respectfully request notice to that effect.

Rejection of Claims under 35 U.S.C. §103(a)

Each of the pending claims, 1-4, 6-8, 10-12, 14-16, 24-27, 30-32, 34-35, and 37-43, stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Gorti et al., U.S. Publication No. 2003/0007452 ("Gorti"), in view of Kalkunte et al., U.S. Patent No. 6,118,761 ("Kalkunte"), and further in view of Bass, U.S. Patent No. 6,118,761 ("Bass").

Applicants respectfully traverse this rejection for at least the reason that Gorti fails to teach the respective limitations of independent claims 1, 10, 24, 30, and 31 related to a first data quantity representing a quantity of data stored in a memory. The Final Office Action asserts that ¶ [0038] of Gorti teaches these limitations. *See* Final Office Action, pp. 4, 6 and 10. However, ¶ [0038] of Gorti fails to even mention a data quantity that is capable of representing a quantity of data stored in any kind of memory. Instead ¶ [0038] of Gorti mentions, at best, flow rates and bandwidths, which are not the same thing as a quantity of data stored in a memory, and which are not capable of representing a quantity of data stored in memory for at least the reason that they will be associated with units of a rate (e.g. bytes per second), not with units of a quantity of data (e.g. bytes or bits). Applicants submit that neither the Final Office Action, nor the First and Second Advisory Actions have identified any entity in ¶ [0038] that is capable of being associated with units of a quantity to data (e.g. bytes or bits).

The infirmities suffered by the arguments set forth in the First and Second Advisory Actions in defense of the Final Office Action's interpretation of ¶ [0038] of Gorti are discussed below.

The First Advisory Action offers its defense of the Final Office Action's interpretation of ¶ [0038] by arguing that since Gorti uses its terms in certain ways, including the fact that Gorti considers its pipes "to be queue[s]," it follows that ¶ [0038] of Gorti can be summarized as teaching that "the quantity is determined within the pipe/queue at a point in time, which is based on many factors: flow available, excess bandwidth signals, etc.," where "the flow available is the quality [sic] of data stored in the memory." *See* First Advisory Action, p. 2.

The first infirmity with this argument is that Gorti clearly distinguishes its queues from its pipes. For example, ¶ [0031] of Gorti states that:

> Referring to FIGS. 2A and 4, the minimum and maximum flow rate for **pipes** providing traffic to **queue** 16 are set, as illustrated at step 102. The pipes may come from any of ports A 12 to enqueuing mechanism 14.

(Emphasis added.) Thus, Gorti's pipes "provide traffic to" its queues. Thus, Gorti clearly distinguishes its queues from its pipes, and Gorti does not consider its pipes to be queues.

The second infirmity with the above argument is that Gorti's "flow available" does not indicate the amount of data that is stored in a memory, as required by the independent claims. The term "flow" is defined in ¶ [0031] by the equation $f_i(t)=O_i(t)*T_i(t)$, where O_i represents the rate at which "the i^{th} pipe" offers "traffic to queue **16**" and T_i represents "the fraction of traffic from the i^{th} pipe which is transmitted to queue **16**." Thus, since T_i is a unitless quantity, it follows that the flow, f_i, has the same units as O_i. In other words, f_i has units of a rate (e.g. bytes per second), not units of an amount or quantity of data stored in a memory (e.g. bytes, or bits). Thus, since the "flow available" is a flow, it will also have units of a rate and will not have units that would allow it to identify or represent the quantity of data stored in a memory.

The third infirmity with this argument is that, even assuming the premises set forth in the First Advisory Action, ¶ [0038] of Gorti cannot be summarized as teaching that a "quantity is determined . . . at a point in time." Nowhere in ¶ [0038] does Gorti mention the quantity or amount of data contained in Gorti's pipes or queues. The paragraph does mention certain quantities, but none of these represent an amount of data. The paragraph mentions the following types of quantities: flow rate, flow rate threshold, flows, and bandwidth signal B. None of these quantities would have units capable of being associated with the amount of data stored in a memory. Flow rate thresholds and flow rates have, of course, units of a rate (e.g. bytes per second). As discussed above, flows also have units of a rate (e.g. bytes per second). Since the bandwidth signal appears to operate as a logical quantity (it can be "ANDed") it is unitless. Thus, none of the types of quantities mentioned in ¶ [0038] have the type of units that would be required to represent, stand for, or identify a quantity or amount of data (e.g. bytes, bits, etc.). Therefore, it cannot be the case that ¶ [0038] of Gorti teaches determining the quantity of data within Gorti's pipes or queues.

In response to a listing of these infirmities, the Second Advisory Action asserts that Gorti's "flow available" is defined in ¶ [0031] of Gorti as a quantity of data because "flows are defined as a fraction of the 'total amount' of data/traffic that queue can service," and queues can only "service" data by storing it. The Second Advisory Action states "the flow available cannot be interpreted as a 'rate' within memory, because how could a fraction of 'rate' be serviced by memories?" *See* Second Advisory Action, p. 2.

Applicants respond by first calling attention to the fact that the phrase excerpted by the Second Advisory Action from ¶ [0031] is misquoted. The actual phrase states that "flows are defined as a fraction of the total amount of traffic that queue 16 can service." Significantly, the word "data" is absent from the original phrase, making it clear that flows are defined as certain amounts of "traffic," not as certain amounts of "data."

Applicants point out next that the Second Advisory Action's assertion that queues can *only* "service" data by storing it is incorrect. It is well-known that queues can "service" data by sending or transferring it. In fact, the context offered by ¶ [0031] makes it clear that the kind of "servicing" provided by queue 16 that is of interest to Gorti's flows is not the storing of data but the transfer or sending of data. The sentence immediately prior to the sentence quoted by the Second Advisory Action states that "the sum of the minimum flow rates for the pipes should be less than or equal to the maximum *send rate S, of the shared queue*." (Emphasis added.) The second sentence following the sentence quoted by the Second Advisory Action states that "[t]ypically, *queue 16 has a defined send rate*—the rate at which the queue 16 can output items from the queue." (Emphasis added.) Thus, not only can a queue "service" data by sending or transferring data, as well as storing data, but the context of ¶ [0031] makes it clear that the kind of "servicing" that is relevant for queue 16 of Gorti is not the storing of data but the transfer or "sending" of data. Gorti even states that its queue has a send rate.

Finally, Applicants point out that the interpretation of Gorti's flows offered by the Office Action ignores the very specific mathematical definition of flows given in ¶ [0031] of Gorti. As stated above, the term "flow" is defined in ¶ [0031] by the equation $f_i(t)=O_i(t)*T_i(t)$. Thus, for the reasons stated previously, Gorti's flows have units of a rate.

Thus, since Gorti's "flow available" is a flow (as even required by the Second Advisory Action's use of the definition of a "flow" in its analysis of "flow available"),

Gorti's "flow available" will have units of a rate and will not have units that would allow it to identify or represent the quantity of data stored in a memory.

Request for Reconsideration and Withdrawal

Therefore, for at least the reason that the cited section of Gorti, ¶ [0038], fails to teach the respective limitations of the independent claims 1, 10, 24, 30, and 31 related to a first data quantity representing a quantity of data stored in a memory, Applicants respectfully request the reconsideration and withdrawal of the rejection against all claims.

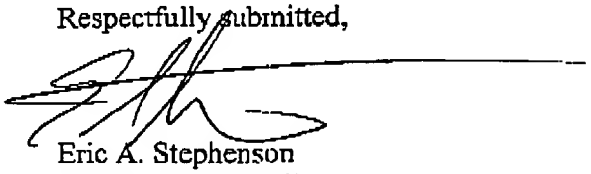
Reiteration of Request for Detailed Information

In addition, should this rejection be maintained, Applicants reiterate their request that the Examiner explicitly identify at least the quantities taught in the relevant references that the Examiner takes to correspond to (1) the first data quantity representing a quantity of data stored in a memory, and (2) the first predetermined value. Note that the first data quantity representing a quantity of data stored in memory will be a quantity that identifies the amount of data that is stored in a memory. Therefore, it will be a quantity for which it would be appropriate to associate units indicating a quantity or amount of data (e.g. bytes, bits, etc.). Likewise, the first predetermined value will be a quantity for which it would be appropriate to associate units indicating a quantity or amount of data (e.g. bytes, bits, etc.).

CONCLUSION

Applicants assert that the application is in condition for allowance and respectfully request that a finding withdrawing the final rejection of the claims be issued.

Respectfully submitted,



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